

Amendments to the Abstract

Please replace the entire Abstract with the following.

ABSTRACT

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A method is disclosed for identifying primary events in seismic data. The method includes sorting the data by frequency so that at least some primary events are separated from non-primary events, thus generating a frequency sorted gather. Amplitudes in the frequency sorted gather above a selected base amplitude are attenuated. The events are then coherency filtered and the attenuated amplitudes are replaced with amplitudes corresponding to the coherent events.